# VIRGINIA WILDLIFE

SEPTEMBER 2004

TWO DOLLARS

# Director's Column

## William L. Woodfin, Jr

If I told you that Virginia is under attack by aliens I'm sure that would immediately grab your attention and you would likely become alarmed by such a statement. So before you start looking skyward and running for the hills, let me just say that no we are not being attacked by little green men aliens in the same sense as is depicted in Hollywood movies, but we are faced with a serious threat from a menagerie of plants and animals that have found their way to Virginia as unwelcomed guests. What sets these unwelcome guests apart from other plants and animals here is that they are invasive species that are not native to Virginia, and they are altering our environment and could have quite a detrimental effect on our state's native wildlife and natural resources.

The most recent attention-getter is the snakehead fish, which has been making front-page news with warnings that they could take over our aquatic ecosystems. This invasion of non-native and exotic species is nothing new to Virginia. Non-native plants and animals have been brought here since the first settlers set foot in Jamestown in the 1600s. But increasingly, with our ability to travel worldwide in a matter of days, the problem warrants serious attention by scientists, biologists, farmers, and you and me alike.

Some of the plants and animals transplanted into the state are now as common as many of our native species. The English sparrow, Japanese honeysuckle, veined rapa whelk, hydrilla, and kudzu, just to name a few. Take kudzu, a fast growing vine that was planted along our roadways to control erosion. The only downside to this miracle plant is that it quickly began to choke out and to kill valuable trees and native vegetation. It also is little to no value to wildlife and it is just about indestructible. But not all non-native plants and animals that have found their way to Virginia have been shunned and feared, for many have turned out to become valuable food sources, such as cows and potatoes.

Within this issue of *Virginia Wildlife* and "Wild in the Woods; The Aliens Have Landed" you will learn more about this serious and growing problem. It's a threat that not only is costing us millions of dollars to control, but also represents a danger to destroying the delicate balance of Virginia's ecosystem. One of the biggest lessons that you can learn by reading this is that most of the undesirable, non-native and exotic plants and animals that find their way into the Old Dominion, whether on land or in our waterways, have done so as a result of human introduction. It can be as simple as unwillingly transporting a zebra mussel that hitched a ride on your boat during a fishing trip to the Great Lakes to releasing a non-native fish or animal, which was kept as a pet, into the environment.

Many of these invaders are even too small to see with the naked eye and yet have virtually wiped out whole species of plants and animals. The native American chestnut is one example where a fungus that was introduced into this country through the importation of trees has just about wiped out this majestic and valuable natural resource throughout much of the Eastern United States. If you really want to get a firsthand look as what we are facing then take a drive through Shenandoah National Park and witness firsthand the destruction caused by the small and unassuming gypsy moth, which was accidentally introduced to this country by one individual in the late 1800s. In less than 100 years, the gypsy moth has devoured hundreds of species of plants and is considered one of the most devastating forest pests to ever invade the United States.

Why should we care what happens to our native plants and animals? Because once they are gone, they are gone. There will be no turning back. And the gaps left behind could have tremendous negative impacts on the entire web of life. We simply don't know the full scope of the roles each individual plant and animal plays in our precious ecosystem. It would be a shame to gain this knowledge because of a loss.

As you read this issue of *Virginia Wildlife*, the world around us will be changing, for better or for worse. If we want that change to be for the better, it will take all of us working together to protect and to preserve our wildlife and natural resources for future generations to come.

### *Mission Statement*

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

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**About the cover:** The redhead duck, (*Aythya americana*), looks similar to a canvasback, but can be easily identified by its brilliant, puffy, chestnut colored head and black neck. It has a stubby, tricolored bill that has a pale blue-tint, marked with a light white ring and dark tip. The redhead is a diving duck that prefers to feed in shallow coastal waters, bays and marshlands. During the winter months Saxis Wildlife Management Area, located on the Chesapeake Bay side of Virginia's Eastern Shore, is a good location for seeing one of these colorful ducks. Photo ©John R. Ford

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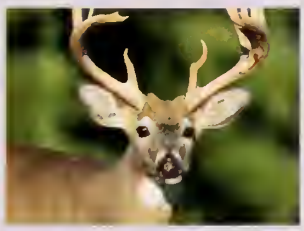

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# Kids Gone

A September camping and squirrel hunting adventure is a great way to introduce a youngster to the outdoors.

by Bruce Ingram

The mid-September evening in Craig County promised ideal conditions for camping, just warm enough so that we wouldn't need thick sleeping bags, but just cool enough so that we would sleep well. As Danny Kyle, his 10-year-old son, Zack and my 13-year-old son, Mark and I drove down a grassy lane on some land I own in Craig, we looked for just the right spot to pull off and pitch camp.

Reaching a hummock that looked out over the Johns Creek Valley, we all agreed that this was the spot. Danny set up the tent, Zack searched for firewood, Mark prepared the fire ring, and I unpacked the odds and ends that we would need for our sojourn.

The basics taken care of, we all became involved with the evening's highpoint—the cooking and consuming of our dinner. Zack cubed the steaks from a Botetourt County doe that I had harvested the autumn before, Mark sliced the vegetables, Danny mixed batter for the bread he was about to cook in his Dutch oven, and I arranged the cooking and eating utensils.

©Bruce Ingram

Some 45 minutes later, after the boys and their dads had stared longingly at the Dutch oven for what seemed like hours, Danny displaced the coals from atop the oven, removed the lid, sampled the contents, and pronounced them ready.

We then proceeded to over-indulge ourselves as we dined under the lights of a lantern and a million stars that illuminated the mountains of southwestern Virginia.

I went on a great many trips (fishing, hunting, business and otherwise) last year, but the excursion I enjoyed the most was that evening spent camping, and the following morning when our quartet squirrel hunted. Here's how you and your offspring can do the same.

©Bruce Ingram

A weekend camping trip that includes squirrel hunting is a good way to introduce a youngster to the sport of hunting.

# Squirrely

©LLoyd Hill

## The Virtues of Overnight Camping with Your Kids

Danny Kyle, a highway engineer from Troutville, believes that camping forays with children are marvelous family getaways.

"I think camping trips help develop real family togetherness," he says. "They strengthen the bonds between a parent and child and they teach a kid to be reliable and resourceful in the woods. Camping trips also keep alive the old skills of cooking over a campfire and spending a night in the woods."

"Now I'm not saying that camping trips don't require some planning (see accompanying sidebar), they do require some work. But it's so much fun to sit around a campfire with a child and cook, eat, tell stories and listen to the night sounds. The entire experience awakens your senses."

Kyle says parents should heavily involve their kids in all phases of the camping experience: the setting up camp, fire making, cooking and cleaning, for example. This gives the youngster ownership in the affair and builds self-esteem.

## Recognizing the Food Sources of September Squirrels

After the night spent camping, the four of us went squirrel hunting the next morning after a dawn breakfast. Just as the camping expe-

rience can be a superlative outdoors learning experience for a youth, so can squirrel hunting.

For instance, after Danny and Zack went one direction and Mark and I the other, the first thing I did was discuss with my son what a gray squirrel's primary September food sources are. In western Virginia, the major mast producers then are three species of hickories: the mockernut, pignut and shagbark.

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Squirrel hunting offers more than just hunting. It is an excellent opportunity to teach a youngster about wildlife, the outdoors and our natural resources.

I told Mark that he could recognize the mockernut hickory by its fragrant leaves that come in seven to nine leaflets, the pignut by its five hairless leaflets and hairless twigs, and the shagbark by its shaggy bark hanging down in loose strips.

I also told my offspring that it was fun to locate secondary food sources of bushytails, especially if the hickories had not produced well. In the Old Dominion, some possible backup menu items include wild black walnuts, summer and fox grapes, dogwood berries and really offbeat foods, such as elderberries and sumac berries.

Later in September, the silvertails may start to consume red and white oak acorns. Then squirrel hunters can make note of which trees were producing acorns and use that knowledge toward placing their tree stands in strategic places when bow season commences. I strongly believe that a child who has knowledge of the outdoors, of how the flora and fauna are interrelated, and of the role that hunting plays in all this, will be a better student in school, especially in science classes, and a better steward of the environment.

## Let Your Child Do All the Calling

One of the great things about hunting squirrels is that they can be called to and that they aren't particularly choosy about the quality and duration of the sounds made. During times when I have taken Mark deer and turkey hunting, he has had a tendency to want to grunt or yelp too much.

But when we are after gray squirrels, I let him indulge himself in regular—and long lasting—calling outbursts. Another marvelous attribute of squirrel hunting is that even if a child is too young to carry a gun, he or she can still do the calling. Mark was just 7 when he called in his first squirrel for a 50-year-old hunter. It was a real thrill for both of them.

©Bruce Ingram

## Just Have Fun

One time when Mark and I had just come back from a fall turkey hunting outing, I asked him which he preferred: turkey or deer hunting. He said both were fine, but what he really liked to do was go after squirrels. Danny Kyle relates that his son Zack feels the same way, and the elder Kyle adds that it is a shame that more parents don't take their sons or daughters squirrel hunting.

When you and your youngster pursue squirrels, the two of you don't have to don full camo, control your scent, sit perfectly still, or pay heed to all the various details often associated with deer and turkey hunting. Indeed, if you and yours opt to venture forth on a combo camping and squirrel hunting expedition this autumn, all you really have to remember to do is have fun!

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*Bruce Ingram is a high school teacher and an outdoor writer and photographer from Southwest Virginia. He has authored numerous best-selling books, which include* The James River Guide, The New River Guide *and* The Shenandoah Rappahannock Rivers Guide. *Both are available through Ecopress at www.ecopress.com.*

## Essential Gear for Camping

A pleasurable camping outing depends on the right balance: too much gear and the packing and unpacking becomes a chore for the parent and child; too little, and everyone becomes uncomfortable. Here are the basics to bring along.

1. Tent
2. Ground Cloth
3. Sleeping bags and pillows
4. Air mattresses
5. Flashlight and lantern
6. Matches
7. Pocket knife
8. Food and water
9. First aid kit
10. Small shovel
11. Toilet paper

By all means, stresses Danny Kyle, leave the radios and portable televisions at home.

## Danny Kyle's Dutch Oven Wild Game Stew Recipe

Danny Kyle's wild game stew recipe is easy to cook and very filling.

1. In vegetable oil, brown the cubed game meat (venison, squirrel or rabbit will all work equally well) in the bottom of the Dutch oven.

2. Add vegetables: diced onions, carrots, potatoes, etc. Cook the meat and vegetables for 15 minutes.

3. Prepare biscuit or cornbread mix (follow directions on packet).

4. Distribute mix evenly over top of meat and vegetables.

5. Place lid over oven, cover with coals. Check stew in 12 minutes to see if bread has set up. Bread should be golden brown on top. Be careful not to overcook stew.

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Nothing makes a camping and hunting trip more enjoyable than resting by a campfire and dining on a meal of fresh fried squirrel or squirrel stew.

# And That's The Way It Was

For many people the thrill of fishing started the first time they were given the opportunity to wet a line. Even if it meant using something as simple as an old stick with a piece of string and a freshly caught earthworm wrapped around the hook.

*Were the "good old days" really that good? For a farm boy growing up in Virginia the answer might surprise you.*

by Bob Gooch

The stock market crashes! It's 1929, a historic year, a year etched forever in the story of America. The economy goes bottom up, the Great Depression kicks in, and Herbert Hoover is elected President to deal with our economic woes. Poor guy. He enjoyed very little success and from my point of view he didn't stand a chance.

But what did it mean to a farm boy growing up in Virginia? Very little really. Very few people in the farming community owned stock. We lived off of the farm, heated and cooked with wood from the farm, no telephone or electric bills as there were no telephone lines and the Rural Electric Administration was not yet even on the drawing boards in Washington. We kept abreast of the world with battery-powered ra-

dios, and the daily newspaper that came in the mail. The U. S. mail carrier, a local man, did a good job. Through the radio, newspaper and word of mouth we heard about hunger marchers in Washington and failed Wall Street brokers jumping out of windows. The strongest local indication of the problem, however, was a new kid appearing frequently in school, children of parents who had lost their jobs in the city and taken refuge at the old home place. Most were bright kids educated in city schools possibly a step or two above our local ones.

It was also the year many of us of a generation now in its twilight years entered school. We advanced through the grades in the local school that took us as fuzz-faced kids and 11 years later gave us high school diplomas and turned us out into a depression-plagued world. Some us went on to colleges and struggled financially through to university degrees. We graduated just in time to enter the armed forces for World War II. The generation that television news anchor Tom Brokaw wrote about. The economic downturn persisted until World War II despite the efforts of wheel-chair confined President Franklin D. Roosevelt who followed Hoover and died in office.

For farm kids and other rural youth hunting and fishing were about the only forms of recreation—and they didn't ask for more. So long as there were rabbits and squirrels to hunt and fish to catch they were happy. They hunted, fished, and ran after-school traplines that produced a little cash, most of which was used to purchase fishing tackle, firearms, and ammunition. And subscribed to *Hunting and Fishing* magazine published in Boston. We learned a lot about hunting and fishing in New England but little about Virginia. It was cheap, however. I believe about a dollar a year. It eventually disappeared. We couldn't afford *Field and Stream*.

We learned to walk across country. That was our major mode of travel and we developed strong legs. That method of basic transportation took us to the hardwoods for squirrels and traipsing through the fields jumping rabbits and flushing an occasional covey of quail. Quail, rabbits and squirrels were abundant, and we had access to vast hunting territory, the only limitation being how far our young legs would carry us. No one posted their land in those days. Didn't dare to do so. They would immediately become social outcasts.

©Bob Gooch

©Bob Gooch

Above: For the author, growing up during the Great Depression, learning to shoot a rifle was more than just recreation, it was a way of helping to put food on the table. Lower left: After more than 80 plus years, the author still enjoys and practices the lessons he learned in the outdoors at an early age.

But on the other hand the hunting and fishing pressure was light by comparison to that which exists today. Even though we spent untold hours hunting and fishing all over the neighborhood, we seldom encountered another hunter or fisherman.

Let's take a closer look at hunting as it existed then. There was little or no big game hunting. There were few deer and bears in the Blue Ridge foothills where we hunted. There were a few turkeys, but we rarely

saw one—and never got a chance for a shot. Taking home a turkey would have been a glorious victory, one that would have made us heroes in the community. Scattered flocks of turkeys were hunted by a small group that kept the locations of the big birds a tight secret. They wouldn't even talk to us kids about turkey hunting. They would merely grunt and dismiss us. "You're too young to hunt turkeys, boy." In that same area today there is an abundance of both deer and turkeys, but limited populations of quail and rabbits that supported our early hunting efforts. Squirrels are abundant most years. There were a few ducks on the river, but too far away for us to hunt. We heard about waterfowl hunting on the coast, mostly from city visitors who came to hunt. Even duck hunting hit rock bottom back there in the 1930s and we listened to visiting hunters complain when the liberal bag limits were reduced substantially. "Not worth going down there to hunt."

There were a few doves around, mostly at cattle feeding stations, and no one hunted them. I don't recall the big flocks that visit harvested cornfields today. We kids occasionally potted one or two birds, but they were not an important game bird in the farming country where we hunted. There were a few woodcock and grouse in the mountains miles beyond our limited hunting range.

There were few raccoons, so night hunters went after opossum, which were reasonably abundant and welcome on many family dinner tables. Once the hounds treed, the hunters often cut the tree down, grabbed the opossum, and stuck it in a sack—regardless of whose property it was on. That was an accepted practice then. It was many years before the raccoon made a comeback. We trapped mostly for muskrats and opossum, but the elusive mink evaded our beginner's skill. There were no beaver. If we were unfortunate enough to trap a skunk we simply shot it from a safe distance and recovered our trap weeks later when the scent had subsided considerably.

At an early age a relative who often visited the farm to hunt, presented my brother and me with BB rifles, real prizes. This was before we had even begun school. We learned to hunt with those little guns. Juncos were our game though everyone called them snowbirds because they arrived in the state in late fall with early snows. They were a favorite table bird of many farm families. They set traps for them, fall traps they could watch from windows. A heavy piece of wood was supported with a stick to which was attached a cord running into the house. Bait was placed under the trap and when enough birds assembled the support was jerked free and the feeding birds were trapped. We never tried trapping them even though this was before federal regulations placed most birds on the protected list. The juncos were plucked, dressed, and used to make tasty bird pies. That practice prompted us to hunt snowbirds with our little BB guns. We too plucked the birds, dressed them, and delivered them to our mother who turned them into bird pies. We never shot any bird or animal we could not use. In the process we learned a lot about hunting, such as stalking within range, waiting in hastily assembled blinds for the birds to gather, and other tricks that were later used in all kinds of hunting for bigger and more exciting game.

When we reached the age that our parents considered it safe to let us hunt with larger firearms we started out with what was generally called a "hawk gun," one used to shoot raiding chicken hawks. It rested in the corner of the kitchen readily available when the chickens began to squawk. We killed our first squirrels with that old gun, a 30-inch, full-

The Library of VA.

Before hunting and fishing laws were established in the early 20th century, many of Virginia's wildlife species, such as bear, deer and turkey, along with some fish were declining.

L. G. Kesteloo

choke firearm that all but kicked our teeth out. We learned to take aim at a squirrel, grit our teeth, and hit the trigger. Usually a fat squirrel came tumbling out of a big hickory tree, and the punishing jolt was forgotten. We used the cheap, single-barrel shotgun to pot rabbits, and I even knocked down a couple of quail with it. Our dad and some of his friends were avid quail or "bird" hunters and kept several crack English setters. As tykes we use to follow them through the fields with our BB rifles and usually got off an errant shot at fleeing birds. Later I was permitted to hunt with his light, double-barrel, 12-gauge shotgun and in the process became a bird hunter.

With the profits from that trapline we also bought mail-order, single-

Thanks to newly enacted game and fish laws, ethical sportsmen and women, and the hard work of game wardens and biologists, the decline of many wildlife species began to take a turn for the better after the Great Depression.

shot .22 rifles with crude open sights that only sharp young eyes could adjust to. With these little rifles we learned the true joy of hunting squirrels.

Fishing opportunities surprisingly were more limited. For one thing the spread of farm ponds that now dot that same countryside had not even begun. There were little or no impounded waters except for a few millponds. Most of the big reservoirs that support so much fishing today did not appear until after World War II. The millponds were few and widely scattered. There was one well within walking distance of our farm, but the fishing rights had been purchased by a small group of city anglers and it was off limits to us. For most, fishing was limited to creeks and rivers. These streams were loaded with fish, but not with game fish that are so popular today. The native fish included the likes of chain pickerel, suckers, fallfish, catfish, horny-head chubs, yellowbreast sunfish and a great variety of small minnows.

Neither the largemouth nor smallmouth bass were common to the local waters, though largemouth bass were successfully introduced to the one millpond. A few worked their way upstream where we managed to creel one occasionally. Good smallmouth bass rivers such as the James and Rivanna were well colored from agricultural run-off much of the year. The larger rivers also had healthy populations of introduced carp, most of which were taken in nets or seining. Few fell to the usual fishing methods.

As abundant and popular as bluegills and crappie are today, they were rare back in those distant days. The main reason was that there was little suitable water for them and few farm ponds where they now flourish. Most were found in millponds, but the fishing was amazingly good in those impounded waters. Introduced fish quickly adjusted and became prolific spawners.

There was good fishing for native brook trout in the Blue Ridge Mountains and those to the west, but well beyond our range. In fact, few people from eastern Virginia ventured into the mountains for the colorful little trout.

But we farm kids caught fish. Lots of them. Horny-head chubs in the creeks were prizes, but so were fallfish. A rare redbreast sunfish was a trophy, and we occasionally caught a sucker, then called flatbacks by the local people. The chain pickerel, which is relatively easy to catch, tantalized and evaded us. Our crude fishing tackle and equally crude fishing methods were no match for the vicious fish. The chain pickerel was called jack or jackfish locally and the fallfish called white chub.

L. G. Kesteloo

The road to protecting and preserving our rich outdoor heritage has been a long one. As many of those who lived through those early years can tell you the "good old days are now."

One thing we learned by accident was that eels often went on a feeding spree following a summer storm that quickly muddied the water. Once it quit raining we would dig a can of worms and head to the creek. Some of those eels were monsters! They straightened our hooks, and broke our lines and fishing poles. And once we managed to get one to the banks we would race home dragging the squirming eel behind us and yelling for help. We were afraid to attempt removing the hook from the mouth of the squirming fish. Those eels, however, were excellent on depression dinner tables. Free of bones and tasty.

Fishing, like hunting, was popular in rural areas during the Great Depression. And both put tasty food on sometimes skimpy tables. Fishing methods emphasized natural baits such as earthworms, crickets and live minnows. You couldn't convince many local fishermen that artificial lures would catch fish.

Both hunting and fishing were well regulated by the time of the 1929 stock market crash that revolutionized life in Virginia. There was always a game warden in our county, and most of them served the area throughout their normal working years. Their training was skimpy and a single warden had a lot of territory to cover. Fisheries and wildlife management was in its infancy. But light hunting and fishing pressure did not put heavy demands on our fish and game populations. As I recall the hunting season opened in November and ran through January, and it was pretty much the same for all species. It did not recognize the varying needs of the different game species. It was popularly called "the hunting season." There was a different waterfowl season, but very little waterfowl, and I believe a special dove season appeared on the books fairly early.

Unlike today when there are no closed fishing seasons, back in the early days the seasons on both largemouth and smallmouth bass were closed during the spawning season, generally the spring months. I recall one young warden, new on the job and with limited training, who had the open season and closed season reversed. After all spring is a top fishing season! Eventually well-trained, young fisheries biologists began to recognize that the spawning capacity of the bass far exceeded the habitat necessary to support the production and recommended the end of closed seasons. There was also a closed season on trout for many years, but that too has long since been discontinued.

Occasionally an enterprising truck driver would load up his flat bed truck and haul a load of eager anglers to the Chesapeake Bay, collecting a fee of $1 from each fisherman. The bay was loaded with big bluefish and stripers, and the happy anglers would return with tubs loaded with the scrappy fish.

Thanks to modern wildlife and fisheries management and good law enforcement, hunting and fishing are better today and more sophisticated. Modern firearms are available for a wide variety of hunting and the array of fishing tackle would knock the eyes out of those old timers.

I am not sure, however, that the modern day enthusiasm can match that of the happy anglers and hunters of the Great Depression years. They were a bright spot in an otherwise somewhat bleak world. ☐

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*Bob Gooch has been a regular contributor to* Virginia Wildlife *magazine for over 50 years.*

©Dwight Dyke

# The Old Dominions Fall Hunting Prospects

*On the heels of a record-setting year, this year's hunting season has big shoes to fill.*

by Marc N. McGlade

Whether you tote a bow, smokepole, .22 caliber or a high-powered rifle into Virginia's woods, this fall should be another banner year for Commonwealth hunters across this magnificent state. If small game, big game, upland birds or waterfowl make your hair stand on end, keep reading.

The 2003-2004 hunting season was spectacular in some respects. A record white-tailed deer and black bear harvest both contributed to hunters' success. While last year certainly helps predict future seasons—in theory—it in no way is a surefire thing.

First the caveat: Forecasting a hunting season in advance is akin to picking the Final Four from a field of 64 during March Madness (NCAA Men's Basketball Tournament). It's dependent on weather, mast crops and other key factors that are out of anyone's control. Since the weather is anything but predictable—especially in Virginia—suffice it to say that the information below is the wildlife biologists' best-educated estimate.

# Small Game

Mike Fies, the furbearer project leader for the Virginia Department of Game and Inland Fisheries, in Verona, says squirrels are very widespread across the state, therefore, regardless of your address you're sure to be close to some quality bushytail hunting.

"I'd suggest the Jefferson National Forest or George Washington National Forest as great places to go squirrel hunting," he says. "There are plenty of mature woods and ample acres for hunters to roam."

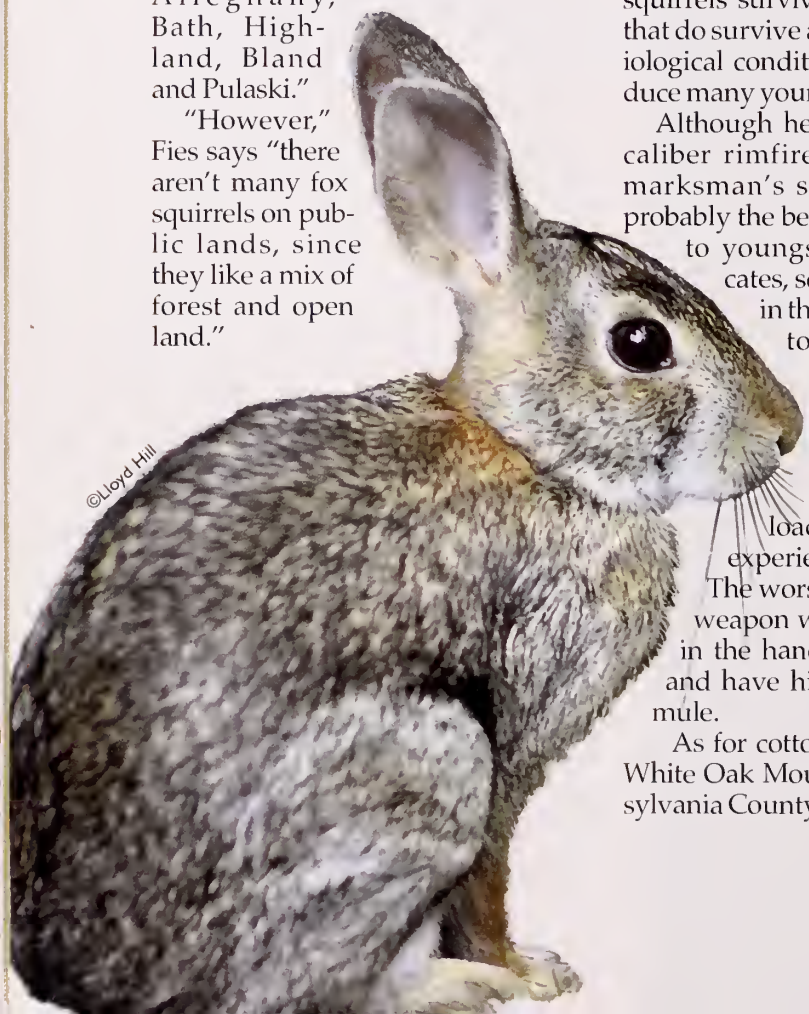
Big Survey, located near Wytheville, is the newest wildlife management area (WMA). It too is a good location to hunt squirrels. Fies recommends hunters look for stands of mature mast-producing trees, like hickory and oak.

"If hunters have a specific interest in fox squirrels, they should try to obtain permission to hunt on private lands west of the Blue Ridge," Fies says. "Several counties with abundant fox squirrel numbers include Alleghany, Bath, Highland, Bland and Pulaski."

"However," Fies says "there aren't many fox squirrels on public lands, since they like a mix of forest and open land."

©Marc N. McGlade

Whether you're still-hunting for squirrels (above), following after a pack of beagles in hot pursuit of a "wascally wabbit" or being outfoxed by a fox, hunting small game in Virginia is hard to beat.



©Lloyd Hill

"As for forecasting squirrel hunter success, I'd say it will be down this year compared to past years," Fies says. "We had very few acorns throughout much of the state, particularly in the west. Squirrel populations decline following a year of oak mast failure because fewer squirrels survive the winter. Those that do survive are not in great physiological condition and do not produce many young."

Although head shots with a .22 caliber rimfire will test the best marksman's skills, squirrels are probably the best game to introduce to youngsters. As Fies indicates, squirrels are common in the Old Dominion, not to mention they are also tasty table fare. The lack of recoil on a youth model .22 or a .410 shotgun with a light load makes for a good experience for youngsters. The worst thing to do is put a weapon with howitzer power in the hands of a young child and have him get kicked like a mule.

As for cottontails, Fies suggests White Oak Mountain WMA in Pittsylvania County.

"The area is intensively managed for small game and has better-than-average rabbit populations (for public lands)," he says.

"A mild spring usually translates into lush nesting conditions, good reproduction and good rabbit numbers," he adds. "However, a lot can happen between spring and the end of the summer."

Ruffed grouse are yet another small game critter with a dedicated following. This upland game bird is found mostly in the western half of the state.

"Grouse numbers have declined recently and unless there is a good spring season as far as recruitment is concerned, they will continue to decline," says Gary Norman, the forest game bird project leader in Verona.

"I'd recommend hunters try the Jefferson National Forest in the southwestern counties, coal company lands in Southwest Virginia and southern counties along the Blue Ridge."

# Big Game

White-tailed deer are to Commonwealth hunters like largemouth bass are to Virginia anglers. The most important game species in the state saw a record harvest during the 2003-2004 hunting season. An astonishing 235,944 whitetails (140,862 males, 93,216 females and 1,866 unknown sex) were harvested during the past season.

Matt Knox, the deer program supervisor in Forest, says, "In general, deer regulations tend to run in cycles. Liberal either-sex deer hunting regulations of the late 1980s and early 1990s were followed by reduced herds in some areas, which resulted in reduced either-sex hunting opportunities over much of eastern Virginia during the mid- to late-1990s. These corrections have allowed deer populations to recover, and the cycle has already turned to more liberal regulations again on a much larger scale, including west of the Blue Ridge. For example, during the past two regulation cycles nearly all either-sex changes have been increases."

Over the vast majority of the Commonwealth, current deer management objectives call for the deer herds to be stabilized at their current levels. Luckily, Knox says, in most areas this management objective is being attained. However, population goals are not being met in the northern and southwest Piedmont. Failure to meet this stable population goal will result in either an under or over harvest.

"Without question," Knox says, "the Department is at the point that, if a management mistake must be made, it must be over harvest."

That bodes well for hunters. The 2004-2005 deer season hopes to mimic last year, but only time will tell.

"A slight decline from last year's harvest would be welcomed," adds Knox. "However, as a result of liberal either-sex regulations that have been adopted during the last two regulation cycles, another record female kill could occur during 2004-2005.

"Because of the predicted increased female kill levels," he adds, "total deer kill levels over much of Virginia can be expected to stabilize or decline over the next two to five years. Hopefully, as a result of reduced deer populations, total deer kill levels will once again fall between 175,000 and 200,000."

The sidebar data for 2003-2004 deer harvest indicates the top-10 counties. It's important to note that these data don't take into account the relative size of the county.

"Only three of the top-10 counties make the standardized top-10 (a population statistic) list," Knox says. "It's obvious from this data, that Northern Virginia counties in the Piedmont (Loudoun) and northern Shenandoah Valley (Shenandoah and Frederick) represent the best places to hunt relative to the number of deer."

Turkey hunting in Virginia is extremely popular. These cunning birds are a challenge to the most experienced hunter. Whether you use a wingbone, box or diaphragm call to yelp or cluck, you'll have met with one of the most difficult of all game to outsmart.

The harvest figures for 2003-2004 were down 14 percent from the previous year. West of the Blue Ridge realized the biggest decline (23 percent), where east of the

Each year it seems that deer hunting in Virginia just keeps getting better and the bucks keep getting bigger. Archery season is a great way to get an early start to the deer season.

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©Bill Lea

old hills only a 6 percent decrease occurred.

"We've found mast (acorns) and spring weather to be correlated to fall harvests," Norman says.

"Acorns have the most impact, but the impact is relevant to the previous fall acorn crops. Specifically, if there is a change in mast crops between years we're likely to see a significant change in fall harvests. We expect the fall kill to increase if acorn availability goes from high to low. This is the result of birds increasing their home range and visibility as they search for foods in open areas and clearings.

"Conversely, we expect the harvest to decline when conditions (acorns) go from poor to good. Home ranges are reduced and vulnerability to hunting is likewise reduced. We expect little change in the fall kill when conditions are similar between years (poor-to-poor or good-to-good).

"Mast conditions have been generally spotty throughout the state in 2003, so there are two options for this upcoming season. Mast conditions could remain poor and we could expect little change in the fall kill or acorns could be abundant and we could expect a decline in the fall kill. We'll know more about acorns in August."

Recruitment is the other important factor, Norman says, although not as significant. Spring weather conditions, like cold March temperatures and a wet May, have been correlated with poor turkey recruitment.

"We've had a run of bad years of acorns and turkey hatches," he says. "Odds are increasing that we'll do better. Better in the case of acorns isn't helpful to hunters, as it makes finding turkeys more of a challenge. Better recruitment is a good thing, though, as seasoned turkey hunters will find their birds regardless of acorn crops and good hatches make for better fall hunts and higher populations."

The 2003-2004 bear-hunting season was a record. An all-time high of 1,510 black bears were reported killed by hunters. This harvest represents a mind-boggling increase of 62 percent from the previous harvest of 932, and a 51 percent increase from the previous high of 1,000 bruins in 2000-2001.

"The total included 904 males, 599 females and 7 of unknown sex," says Denny Martin, VDGIF's black bear project leader. "Harvest west and east of the Blue Ridge totaled 1,067 and 443, an increase of 41 percent and 46.7 percent, respectively."

Archery hunters arrowed 446 bears, up from the previous year's harvest of 244. Gun hunters killed 375 bears during the second week of deer-gun season (first week of the bear-gun season), an increase of 41.5 percent from the previous year's harvest of 265. A total of 552 were harvested during the dog-hunting (hound) season. One hundred forty-one bears were harvested in newly opened hunting counties or portions of counties, and 137 were harvested during the new four-day muzzleloading season. Only 15 bears were harvested during the muzzleloading season in newly opened counties.

"The harvest of bears in the eight counties which contain the Shenandoah National Park (SNP) increased from 503 to 722," Martin says. "It's important to note that 77 percent and 91 percent of the bears harvested in Rockingham and Augusta counties, respectively, are probably not associated with SNP bear populations.

*Last year hunters took a record number of black bear. With the right weather and mast conditions this year should also prove to be another great season. For the best counties to hunt bear, deer and turkey look on page 18 for the Top Ten Counties.*

"Good habitat is made up of a variety of types including older-aged forests that produce acorns. Areas where timber is harvested provide blackberries, blueberries, sassafras berries and many other foods including insects or rodents, all of which are attractive black bear foods."

©Marc N. McGlade

If you're a bird hunter, which means everything from quail to rails, chances are Virginia has something to offer you.

Martin says the Rapidan WMA—bordering SNP in Greene and Madison counties—is the only public hunting lands available that border SNP. Most hunting lands around SNP are private property, he points out. However, archery hunters often are permitted to hunt these private lands.

Generally, if mast production is low, bears will travel from SNP and move in search of food. These bears are often attracted to cornfields, orchards or bird feeders—and trash cans on private property.

"When they travel from SNP, the success rate for archers increases," he says. "Therefore, if mast production is low, bow harvest usually increases."

A healthy population of bears exists in and around the Great Dismal Swamp National Wildlife Refuge area, too. This is a component of a large bear population in eastern North Carolina.

"Bear hunting is permitted in the cities of Chesapeake, Suffolk and Virginia Beach on private land near, but not in, the swamp refuge at this time," Martin explains.

## Birds of a Feather

"Weather plays a major role for duck distribution in Virginia," says Tom Bidrowski, the waterfowl project leader in Williamsburg. "Being wintering termini, Virginia's duck numbers are dependant on the weather. Years of mild weather allow waterfowl from being frozen or weathered-out, allowing some birds to remain in mountain and piedmont areas and in backwater beaver ponds, rather than moving to the more traditionally hunted locations. Virginia has experienced severe ice conditions with even large portions of the Chesapeake Bay freezing up during the last week or 10 days of the season. Hunters, who found open water, reported great success."

The liberal duck hunting and resident goose seasons the past several years have resulted in record waterfowl harvests in Virginia. These long seasons offer ample opportunities for more days afield and a greater cumulative harvest over the course of the season, Bidrowski says.

"In addition, a special September teal season was initiated in 1998, east of Interstate 95," he adds. "This season provides an opportunity for hunters to pursue blue-winged and green-winged teal.

"Hunters planning to go out during this season should do some preseason scouting to locate teal concentration areas and practice their duck identification. There are lots of wood ducks flying this time of year, but they aren't open to hunting during this season," he cautions, "only teal can be taken.

"The September goose season overlaps the teal season and will provide the goose hunter a chance to bag a teal or two along with a goose. Despite high duck numbers, there are a few species that remain at low levels, particularly pintails and canvasbacks. This has resulted in either restricted or closed seasons for them."

Bidrowski indicates that finding a waterfowl hunting spot in Virginia can at times be a chore, requiring much scouting as waterfowl numbers influx greatly during the season.

"One of the best opportunities for a quality hunt is to apply for the lottery waterfowl hunts on the WMAs," he says. "In addition to high-quality lottery hunts, the managed hunts on VDGIF management areas such as Princess Anne WMA, Chickahominy WMA and Game Farm Marsh WMA in eastern Virginia, are popular and offer good chances of not only a place to hunt, but birds as well."

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The fall hunting season is certainly dependent upon the weather, food supply and of course, ultimately your aim. Hopefully this season will be one for you to remember. There's nothing quite like grand memories from afield and a good meal consisting of fresh game. Best of luck! ☐

*Marc McGlade is a writer and photographer from Midlothian. Marc is a regular contributor to* Virginia Wildlife, Game & Fish, FLW Outdoors, North Carolina Sportsman, The Sportsman's Magazine *and other national and regional publications.*

## For More Information

- DeLorme produces the *Virginia Atlas & Gazetteer*, an excellent statewide map; contact them by phone at (800) 452-5931 or visit their Web site at www.delorme.com.
- For questions concerning hunting regulations, bag limits or any other hunting-related inquiries, contact VDGIF at (804) 367-1000, or www.dgif.virginia.gov. A copy of the *Hunting & Trapping in Virginia* pamphlet should be given to you when you purchase your license.
- All hunters who are 12 to 15 years of age (or those 16 and over who have never been issued a hunting license) are required to take a mandatory hunter education course.
- Hunting licenses and permits are valid from July 1 though June 30.
- When hunting any game species during a general firearms deer season, every hunter or person accompanying a hunter must wear a blaze orange hat or blaze orange upper body clothing that is visible from 360 degrees or display at least 100 square inches of solid blaze orange material at shoulder level within body reach and visible from 360 degrees.
- Blaze orange is not required during the special muzzleloading deer season(s) or by waterfowl hunters, individuals participating in hunting dog field trials and fox hunters on horseback without firearms.
- Always remember to put safety first: One accident during the hunting season is one too many.
- All migratory bird hunters are required to secure a Harvest Information Program (HIP) permit number in addition to a Federal duck stamp. The permit is free and can be obtained by calling (888) 788-9772. When hunters call, they will be instructed to write their HIP number on their hunting license. Hunters can also register for HIP online at www.dgif.state.va.us/hunting/hip.html.

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## Top Ten Counties

White-Tailed Deer Harvest (2003-2004) *

| | |
|---|---|
| Bedford | 8,371 |
| Fauquier | 7,736 |
| Loudoun | 7,521 |
| Rockingham | 6,032 |
| Shenandoah | 6,001 |
| Franklin | 5,150 |
| Southampton | 4,957 |
| Albemarle | 4,891 |
| Pittsylvania | 4,766 |
| Frederick | 4,749 |

Black Bear Harvest (2003-2004) *

| | |
|---|---|
| Rockingham | 176 |
| Page | 119 |
| Albemarle | 98 |
| Augusta | 88 |
| Madison | 82 |
| Shenandoah | 75 |
| Alleghany | 70 |
| Bath | 70 |
| Rappahannock | 70 |
| Botetourt | 68 |

Wild Turkey Harvest (2003-2004) *

| | |
|---|---|
| Franklin | 314 |
| Pittsylvania | 278 |
| Bedford | 264 |
| Grayson | 186 |
| Botetourt | 186 |
| Rockbridge | 178 |
| Giles | 173 |
| Amelia | 157 |
| Craig | 156 |
| Augusta | 146 |

* These figures are preliminary and the final data are subject to change.

# 2004–2005 Hunting Seasons Quick Reference

Note: For specific details on seasons and areas, see pages 22–34 in the current hunting and trapping regulations publication.

## Big Game

### Deer

Archery
- Statewide (Early) – October 2-November 12
- West (Late) – November 29-January 1
- Chesapeake, Suffolk (east) & Virginia Beach – December 1-January 1
- Floyd, Franklin, Henry, Patrick & Pittsylvania (west) – December 13-January 1
- Special Urban Archery – September 18-October 1 and January 3-March 26 (special restrictions apply)

Muzzleloader
- East (Early) – October 30-November 12
- West (Early) – November 6-12
- West & certain counties east (Late) – December 18-January 1
- Chesapeake & Virginia Beach (Late) – December 18-January 1

Firearms
- East – November 13-January 1
- West – November 13-27
- Chesapeake, Suffolk (east) & Virginia Beach – October 1-November 30
- Floyd, Franklin, Henry, Patrick & Pittsylvania (west) – November 13-December 11

### Turkey

Fall

Archery – October 2–November 6

Firearms
- Generally – October 25–November 6, November 25, and December 6–January 1.
- Prince George, Isle of Wight, Southampton, Surry, Sussex and Buchanan – October 25–November 6 and November 25
- Certain counties in Northern Neck, Middle and Lower Peninsula areas – October 25–November 6, November 25, and December 6-18

Spring Gobbler
- (Statewide) General – April 9–May 14
- Youth Day (Statewide, age 15 and younger) – April 2

### Bear

Archery
- (Statewide) –October 9–November 6

Muzzleloading
- (Certain counties) –November 9–12

Firearms
- West (certain counties) – November 22–January 1
- Southwest (certain counties) – December 6–18
- Chesapeake, Suffolk, Virginia Beach –November 1–January 1

Hound Training
- Certain counties – August 28–September 25

## Small Game & Furbearers

### Bobcat
November 1–January 31

### Coyote
Continuous open season

### Crow
August 21–March 19 (On Mondays, Wednesdays, Fridays, and Saturdays only)

### Fox
- Firearms (certain counties)– November 1–January 31
- Dogs Only (except National Forest and certain public lands– Continuous open season

### Groundhog
Continuous open season

### Grouse
October 25–February 12 (west of I-95)

### Opossum
October 15–March 10

### Quail & Pheasant
November 8–January 31

### Rabbit
November 1–February 14

### Raccoon
- Firearms – October 15–March 10
- Chase Season (east except National Forest, west private lands only) – August 1–May 31

### Skunk
Continuous open season for striped skunks only

### Squirrel
- Archery – October 2-November 6
- Firearms – September 4– January 31

Rose Britton, from Richmond, harvested this impressive 8-pointer in Goochland County, during last year's muzzleloading season. She is just one of the many new women hunters who have taken advantage of the exceptional opportunities that the sport of hunting has to offer.

Lee Walker

# WildlifeMapping

School children, citizens and community groups participate in a new program that assists in collecting wildlife-related information that ultimately will be used to help in the management of Virginia's wildlife resources.

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by Ashley Tate Townsend

During a WildlifeMapping workshop at Blandy Experimental Farm in Clarke County, WildlifeMapping facilitator Caryl Buck explained that children are the best observers of wildlife.

"I had a couple of bird watchers there and I could tell they were rolling their eyes saying 'yeah sure,'" Buck said. "We walk out and the birders are still trying to find a bird and the little kid says, 'oh look, a caterpillar!'"

Buck said the youngest observer at the training proved her right when he spotted the monarch butterfly caterpillar crawling on the vegetation. She said adults often have their minds on other things, while a child's "whole mind is looking at nature."

WildlifeMapping welcomes participants of all ages and backgrounds, who range in age from 7 to 82, said Jeffrey Trollinger, the Watchable Wildlife program manager for the Virginia Department of Game and Inland Fisheries.

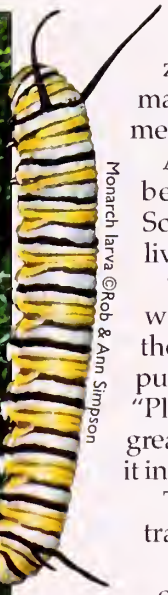
The WildlifeMapping program was started by the Virginia Department of Game and Inland Fisheries in 1997. It was modeled after the state of Washington's NatureMapping program, which grew into the national NatureMapping program that links Virginia and other participating states.

WildlifeMapping gives Virginians the opportunity to collect wildlife and habitat data. Observers attend half-day workshops, choosing one held at a location in their region of the state, to learn to identify species and habitats they might encounter, pinpoint the longitude and latitude of locations from which they make observations, and report the data.

The workshop registration fee covers the cost of the materials. After training, participants may submit any observations directly to the Department monthly.

Trollinger coordinated the WildlifeMapping program from February 1999 to December 2001, when he became the manager of the Watchable Wildlife Program, formed in 2001 to oversee WildlifeMapping and other wildlife-viewing programs.

Great horned owl ©Rob & Ann Simpson



Monarch larva ©Rob & Ann Simpson

Above: At the school's pond, Lou Verner, WildlifeMapping coordinator discusses ways in which teachers and students can incorporate WildlifeMapping observations into the St. Paul High School curriculum.

Right: St. Paul High School students, Mack Smith and Caleb Wingate apply their newly learned knowledge of assigning both species and habitat codes to their wildlife observations.

Louis Verner, the Department's watchable wildlife biologist, began coordinating the outreach and education components of WildlifeMapping in May 2003.

Verner and Trollinger work closely with the Department's Fish and Wildlife Information Service (FWIS), a section within the Department that compiles the data received from mappers and other sources into a database and interprets it for research.

Verner said he hopes that his new goal of organizing regional WildlifeMapping support systems will educate communities about the impacts of growth and development on area wildlife. He said regional groups could conduct mini-research projects in addition to collecting wildlife data to aid community land use planning.

Trollinger said that the program never had the resources to regionalize until this year, when the agency hired Verner and VFWIS became responsible for the database.

The Department organizes approximately 16 workshops at various locations in the state each year, half of which are open to the public while groups such as birding clubs or conservation organizations request the remaining workshops for their members.

At a workshop in September, Buck trained Paul Schmidt, an engineer who lives in Fairfax County.

"The training is fantastic. I was really impressed with the training program they put together," Schmidt said. "Plus the trainer I had was a great person who really made it interesting."

Trollinger said he has trained 76 facilitators, who commit to conducting one or two workshops, and now has about a dozen active facilitators.

Temple Moore, an Alexandria resident with a second home in the Northern Neck, has conducted at least six workshops since he became a facilitator four years ago. The retired airline pilot said he decided to become a facilitator after a short time reporting data as a volunteer.

"I think it's a very worthwhile program," Moore said. "I'd like to see more people interested in it."

As an observer, he said he hasn't missed more than a couple of months of reporting. He said he mostly reports species he observes in the Northern Neck, including common species like crows and squirrels or the great blue herons and kingfishers that frequent tidal wetlands.

Susan Summers, an education associate at the Virginia Living Museum in Newport News, a museum focused on wildlife native to the East

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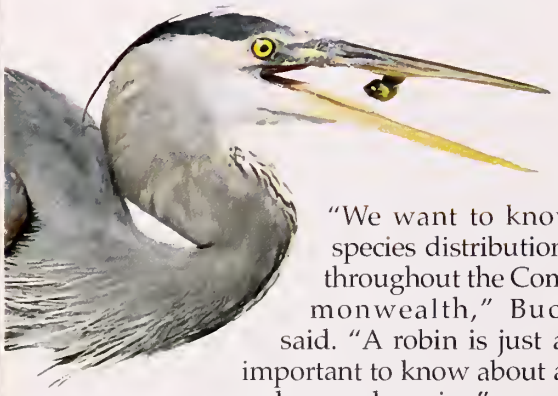
Coast, began mapping in 1998 and became a facilitator about a year later.

The museum takes middle school students on one week camping trips to the Blue Ridge Mountains where they collect wildlife data for submission. By tapping into the resource of young observers, as well as adults, she contributes to wildlife management.

"We explain to the students that they will be helping fishery and wildlife biologists to manage Virginia's wildlife through our contribution of information," Summers said. "Since the biologists can't be everywhere, it is a great feeling to help out."

Summers said the museum staff and volunteers contribute their observations, such as a family of great-horned owls and a silver-haired bat they saw on museum property, by writing them down on a sheet she posted.

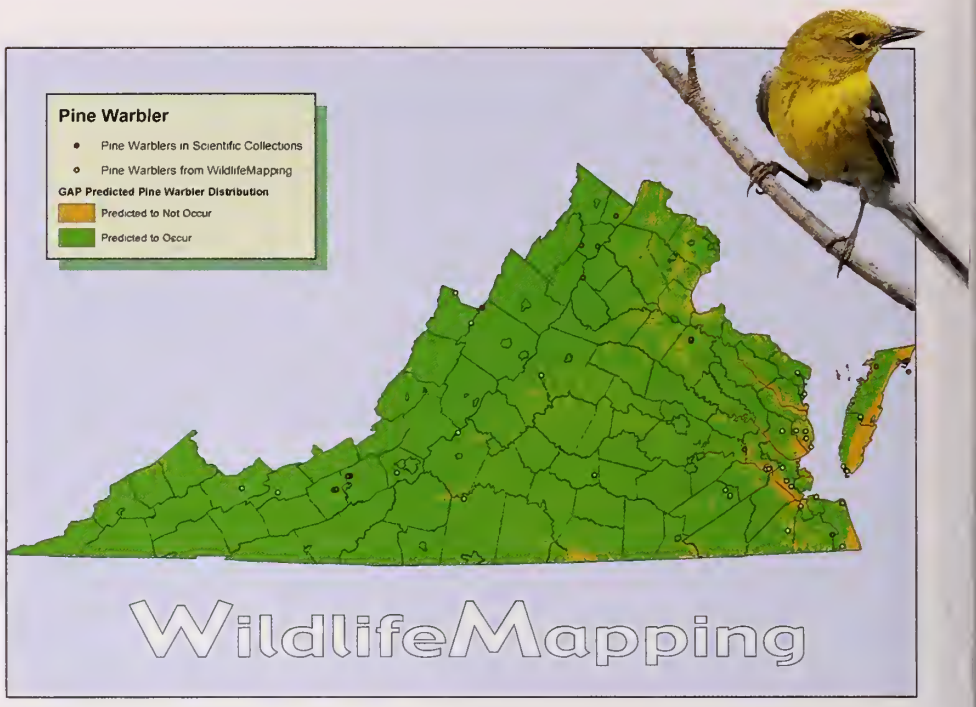
Although it is exciting to discover rare or elusive species, Buck reminds participants of the importance of those common species they can easily identify.



"We want to know species distributions throughout the Commonwealth," Buck said. "A robin is just as important to know about as an endangered species."

Buck said the purpose of the program is to identify areas of high biodiversity, which indicates an area of good habitat that must be conserved for wildlife management.

Above: Great blue heron ©Rob & Ann Simpson.




WildlifeMappers have made significant contributions to the Virginia Department of Game and Inland Fisheries' wildlife database, and in the process are helping verify computer-generated models linking habitat distribution with species distribution, such as that of the pine warbler.
Above bird: Pine warbler ©Rob & Ann Simpson.

Trollinger, Verner and the facilitators interviewed said people can make their observations in a way that best suits their life, and can even make observations at work.

Barbara Kolb incorporates WildlifeMapping into the curriculum for the Biology II class she teaches at James River High School in Botetourt County. She asks students to fill out data sheets on wildlife they see, and then they determine the species codes together in class and send hundreds of observations on a quarterly basis.

She said the students in the rural county make good observers, especially because most of them have an interest in the environment before they enter her class and many are hunters.

"It's natural for most of my students to be out and about in the woods," Kolb said.

She said her students reported coyotes before the state documented

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Right: At a recent WildlifeMapping workshop at St. Paul High School, Watchable Wildlife biologist, Lou Verner prepares participants for an observation skills-building exercise, "Who am I."

©Dwight Dyke

them in the county, and Trollinger compiled information on her student's observations of common species as well.

Kolb said, "We noticed that most gray squirrels in the state were identified by my students."

Trollinger pointed out that WildlifeMapping fills major gaps in the data available to the Department through its information service. He said the Department has plenty of data on birds because bird watchers collect large quantities of point specific data and general data each year. The VFWIS includes surveys such as the Breeding Bird Atlas, for which the Department and the Virginia Society of Ornithology inventoried the distribution of birds throughout the state.

The Department doesn't have similarly detailed information on other animals, such as butterflies. Trollinger said WildlifeMapping provides the only statewide, point-specific data on butterflies.

He also said harvest data from hunters supplies the Department with most of its mammal data, providing information at the county level and only including game species like white-tailed deer.

Reports of road kills and animals that house cats kill gives the Department data it lacks on small mammals, Trollinger said. Reclusive and nocturnal species such as the white footed mouse or meadow vole be come data points when the ca brings them to the back porch.

Trollinger said, "If those types o things are going to happen, why no use the data? The WildlifeMappers

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Top and above: Learning to identify animal signs, such as tracks, scat and skulls is part of the fun at a WildlifeMapping workshop. Mack and Caleb examine the differences between the skulls of two mammals. Below right: Woodland jumping mouse ©Rob & Ann Simpson.

## Wildlife Watching in Virginia

Based on a 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation for Virginia, by the U.S. Fish and Wildlife Service and U.S. Census Bureau, 2.5 million state residents and nonresidents 16 years old and older fed, observed or photographed wildlife in Virginia in 2001. Over 2 million, or 86 percent, of these participants watched wildlife close to their home and 772,000, or 31 percent, of these participants watched wildlife at least one mile from their home. These same people also helped to boost Virginia's economy by spending almost $789 million on wildlife watching activities.

are the only ones who are doing that."

The Department needs WildlifeMapping to provide them with data they can't collect themselves, which is why Kolb said she reminds her students of the importance of their work. She doesn't grade their observations so they don't feel pressure to report wildlife if they haven't seen any.

She said she values the program because it gives her students an appreciation of nature and helps them think quantitatively, but she finds it difficult to get other teachers to participate. Kolb's Biology II is an elective and doesn't have Virginia Standards of Learning (SOLs) requirements.

"The SOLs, I think, cause a lot of teachers to shy away from anything that's not directly tested, which is a shame," Kolb said.

Kolb said her students become better observers and obtain mapping skills. She has them locate their longitude and latitude the old-fashioned way, on U.S. Geological Survey maps.

Once they know how to use the map, Kolb allows them to use a global positioning device to instantly determine their location.

Among other things, WildlifeMapping differs from Washington State's NatureMapping program because it requires observers to give latitude and longitude, where Washington State is divided into townships (36 square mile blocks) and eliminates the need for such calculations.

Karen Dvornich, the national director of the NatureMapping program, said Virginia has served as a leader for the East Coast states by altering Washington's format to accommodate regional differences, including latitude and longitude coordinates.

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Christy Wade (right) and Debra Pinland combine their skills to identify a songbird sighted during the St. Paul workshop fieldtrip.

Spring peeper ©Rob & Ann Simpson

As the first East Coast state to participate and the second state with a statewide program, Virginia belongs to NatureMapping's national board along with Washington and Iowa.

While 12 states officially participate in the program, Dvornich said British Columbia developed a similar program, Norway implemented pieces of the program, and Australia, South Africa and many states have expressed interest in the program.

Dvornich started the program, which is housed at the University of Washington, in 1992 when she teamed up with Margaret Tudor of the Washington Department of Fish and Wildlife (WDFW), who wanted to educate the public about ways to prevent the loss of wildlife.

Dvornich said she needed data for Washington's Gap Analysis Program (GAP); a national program conducted on the state level to identify priority conservation areas based on species present and land cover. Dvornich said she and Tudor thought asking the public for help might promote wildlife awareness for WDFW while also gathering the data needed for GAP maps.

"We know there's a huge interest out there. We know that people are really torn away from nature in their everyday lives," Dvornich said. "This is an opportunity to learn more about what they see in their backyards."

NatureMapping started when teachers from 23 schools submitted 3,000 records in 1993, Dvornich said. As the program went statewide in Washington, she said she spread the word to other GAP personnel at meetings and NatureMapping grew into a national program.

Since NatureMapping programs have limited staff and resources, the

national board formed a nonprofit organization called Community Explorers last year. Dvornich said the nonprofit will distribute materials to interested states and will have state offices to provide program support.

"One thing we can't do well enough—and we're really working hard to be able to do this—is to get the information back to the public in a way the public can really understand," Dvornich said.

Washington's NatureMapping

©Dwight Dyke

Biologist Lou Verner discovers a dragonfly molt attached to a cattail leaf and points out the importance of dragonflies in maintaining a healthy pond ecosystem. Dragonfly identification is rapidly growing in popularity among wildlife watchers. Above right: Great egret ©Rob & Ann Simpson.

staff is concentrating on posting general data maps for all of Washington's species online by the end of the year, Dvornich said.

Trollinger and Verner said Virginia's WildlifeMapping data should become available online within the next year when it becomes an option in Virginia's Fish and Wildlife Information System. The Department recently reengineered the system from DOS to a Microsoft Windows compatible format.

Verner said, "It's the ultimate goal that this is an interactive system for (WildlifeMapping participants), so they can pull up information based on WildlifeMapping data that they and others have contributed."

Other efforts to expand the Web site's role included the introduction of online data submission last July.

Trollinger said only 10 percent of the 1,250 trained observers actively submit data. He said he hopes that percentage will increase now that the Department offers more outdoor education programs. Few adult education programs existed before WildlifeMapping. Trollinger said he believes people, who wanted to learn about wildlife but had no interest in collecting data, went to the workshops due to the lack of suitable options.

Daily responsibilities may also distract trained observers and prevent them from submitting data. Moore said he would have spent more time on projects similar to WildlifeMapping while he was working but didn't have the opportunity.

"We have a lot of retired people who are interested in (WildlifeMapping) just because they have the time to do it," Moore said.

Extension agent Ellen Powell took the facilitator training course with her husband in 1998 but hasn't submitted data recently. She said online data submission might encourage her to contribute again, since her frustration with old mapping computer disks catalyzed her hiatus.

"I haven't been willing to organize my outdoor time enough to participate recently," Powell said. "That's a personal issue, related largely to my lack of truly free time." Powell said she would recommend the program to others to enhance their knowledge of wildlife and make a positive contribution to wildlife biology. She said she and her husband will conduct a workshop in May, and before then they hope to resume submitting observations.

With talk of a newsletter and phone calls to check on the progress of new participants, Verner and Buck said they want to prevent loosing participants by reassuring them of their importance to the program and providing support for easily mitigated problems.

"I've been able to clear up little tiny questions that would normally have stopped them from reporting," said Buck, who gives participants her email address and home phone number.

The program has 16 trained resource guides, or knowledgeable volunteers who observers may contact for information on a region or taxonomic group, but Trollinger said observers haven't used the resource guides. Verner said his plans for regional support should establish the resource guides as regional leaders and make their role in the program more effective.

As the program grows and improves, Trollinger and Buck stress that the program welcomes any observations from anyone, regardless of age, experience level or physical ability.

Buck said, "If you can't walk, you can sit and watch a birdfeeder in your house. If you're blind, you can listen to bird call sounds...Truly this is a program that everyone can participate in, and that's one of the things that really excites me." ☐

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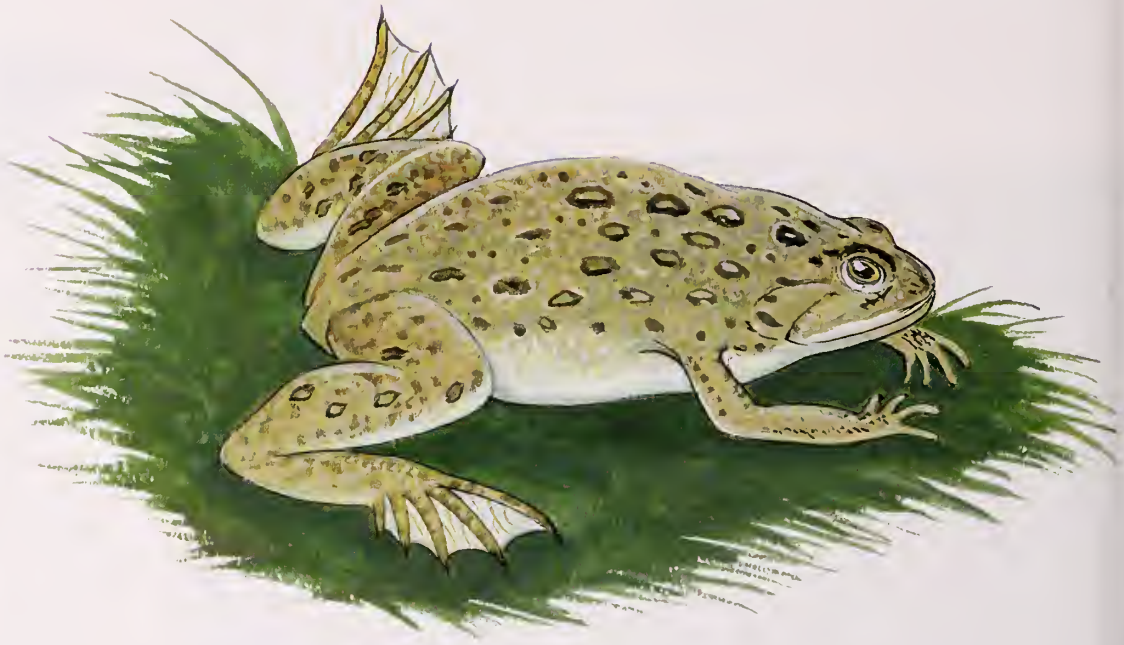
*Ashley Tate Townsend is an environmental studies graduate student at Virginia Commonwealth University and is working on developing an environmental communications degree.*

Wild in the Woods

# The Aliens Have Landed

by Carol A. Heiser
illustrations by Spike Knuth



Something foreign is creeping about slowly underfoot, quietly overtaking our green spaces and waterways, blanketing the landscape with a seemingly innocent mosaic of textures, shapes and colors. A giant amoeba? An invisible force field? No, it's an insidious legion of alien plants. Following close on the heels of these leafy invaders is a contingency of exotic animals, too, which compete with native species and crowd them out of essential places to feed and raise their young. Together, exotic plants and animals represent a formidable threat to ecological stability and biodiversity.

## Culprits We Invited

How do the exotics get here? We introduce them ourselves—sometimes unwittingly, sometimes deliberately. As Pogo once said, "We have met the enemy, and he is us." The earliest examples of deliberate introductions began in Colonial times. Colonists were homesick for the familiar chirps of their beloved weaver finches in Europe, and they introduced the birds here in North America. Today one can scarcely avoid tripping over these pocket-sized masked bandits called 'house sparrows,' which compete for nest sites with native cavity-nesting birds. In a similar fashion arrived the rock dove (pigeon) and starling.

For more than 200 years, European plants were introduced for medicinal, culinary and other household needs, and most of the weeds that invade our yards and the countryside today are the result of this legacy. For instance, our forebears used dried flower heads of common teasel to "tease" and clean the nap of cloth; chickweed to feed the chickens; English ivy to grace brick walls; gill-over-the-ground (or ground ivy) leaves to flavor beer; and garlic mustard to garnish salads. Today, garlic mustard wins the honor of being one of the worst invasive exotics in our area, because it can dominate the native ground cover and virtually take over forests.

Entrepreneurs who were eager to manufacture silk naively brought gypsy moths, which evolved in Europe and Asia, to the Boston area in 1868. Some of these escaped later into the environment because of a laboratory fire. The insects subsequently spread all over the northeastern U.S. and portions of the Southeast and

Midwest, gradually munching and defoliating their way through whole forests of about 500 different host plants. Its range continues to spread.

Horticulturists seeking to beautify our yards and parks combed Asia and the tropics for unusual plant specimens to raise in our nurseries and arboreta. Hence the arrival during the 1800s and early 1900s of such beautiful but invasive ornamentals as Japanese honeysuckle, mimosa tree, Chinese wisteria, multiflora rose, golden bamboo, nandina, Oriental bittersweet, paulownia (princess tree), ligustrum (privet), bush honeysuckles and periwinkle. At the 1876 Centennial Exposition, kudzu was also brought in as an ornamental plant. During the 1920s it was promoted as a forage for livestock, and during the 1940s the Soil Conservation Service promoted it for erosion control. Today the plant has spread throughout the Southeast, and in some areas it has blanketed whole forests.

Meanwhile, agriculturists looked long and hard for aggressive, easy to grow plants that might inexpensively feed livestock: hello Johnsongrass. This plant was brought in from Turkey in 1830 and is still being used today in parts of the south in pastures and bales of nutritious hay. Too bad the grass is able to grow new plants from every little bit and piece that might attach to a tractor and get transported to another field.

Foresters and biologists recommended a prolific berry-producing plant (actually gave the stuff away) to landowners for food patches and erosion control: autumn olive. Road crews are still using crown vetch for stabilization of road banks. The irony is that we seem to learn very slowly from our mistakes and are still doing the same things: witness the currently popular butterfly bush, which is beginning to show troubling evidence of becoming invasive.

## Unnoticed Stowaways

Not all non-native introductions were planned, however. Many of the invasive species we deal with today arrived here accidentally, as stowaways or hitchhikers on ships and planes. A classic example is the zebra mussel. Merchants ferrying goods across the oceans in great ships must take on ballast water for seafaring. Once they arrive in our country, the ships dump this ballast water to reduce their weight. It is believed that sometime during the 1980s a ship released ballast water from Asia into the Great Lakes and inadvertently released thousands of zebra mussel larvae into the U.S. freshwater system. Zebra mussels have since spread to 18 states and parts of Canada; there is a colony of these mussels in a quarry in Northern Virginia, thought to have been brought in on a diver's gear.

At first glance the zebra mussel might appear to convey a benefit, because its habit of filter-feeding greatly clears up water. However, the mussel is so efficient at this task that it removes the lion's share of plankton—the base of the aquatic food web—which in turn has detrimental consequences for native fish and other aquatic life. Zebra mussels are also inexhaustible colonizers; their ability to multiply and clog water intake pipes has caused tremendous problems for water treatment plants and power generating stations.

Above: The round goby is an invasive fish that has found its way into the United States from Europe. It is aggressive, rapidly reproducing, and takes over the habitat of other native fish species, such as the logperch and sculpin.

Some of the insect species that have become today's worst nuisances arrived in this country on pallets destined for garden centers and other venues. One of these insects, which managed to survive and become established, is the Asian longhorned beetle. Native to China and Korea, the beetle entered the New York area from wood-packing material in 1996. It has become a formidable pest of hardwood trees like maple, willow, elm, poplar and sycamore in New York and Illinois. So far the insect has not spread substantially, and foresters are keeping a watchful eye on it.

## Why it Matters

Non-native species tend to have an advantage over native ones when the exotics are introduced to a new area where they did not evolve. In its original native setting, any given plant or

The African clawed frog (opposite page), hydrilla (left) Japanese honeysuckle (right) and phragmites (far right) are just a few of the many alien and invasive species that now make Virginia their home.

Nutria (below) is a large rodent that can grow as large as a medium size dog. It was introduced to this country from South America for its fur. Since arriving they have posed a serious problem by destroying wetlands and competing for habitat that other animals rely on, such as the native muskrat (top).

animal has had to cope with associated predators, diseases, climatic conditions, available food resources, and a host of other environmental factors that effectively limit its population size over time. Nature keeps things in relative equilibrium through this complex system of checks and balances. However, when a plant, seed or animal is uprooted from its natural habitat and subsequently transported to completely dissimilar environs 2000 miles away (whether by accident or by design), one of two things can happen: the foreigner will either go belly-up because the new habitat is too different to survive in, or it will proliferate because the new conditions happen to be better than the ones it originally came from.

Exotic plant and animal species which are able to invade and colonize an area are successful for a variety of reasons. Oftentimes the invasive species does not have to deal with the usual diseases or predators that would ordinarily be found in its home habitat. In other instances, the species may have characteristic behaviors or adaptations that enable it to be more aggressive or competitive with native ones. For example, honeybees were first introduced to this continent in Jamestown almost 400 years ago, and since that time they have spread from coast to coast. These bees have certainly benefited our crop and fruit production and provided us with tons of delectable honey. But the sweetness comes with a cost: it has been documented that honeybees dominate the pollination community, which is made up of other bee species as well as ants and wasps. "The honeybee does so by virtue of its superior ability to detect, to direct its peers toward rewards (via dance language), and to rapidly harvest floral resources" [*The Forgotten Pollinators*, by Buchman and Nabhan, c. 1996].

Sometimes a new species exhibits more prolific reproduction or more rapid growth than the natives. A good candidate to explain this phenomenon is purple loosestrife, an aquatic plant native to Europe and Asia that was introduced to the U.S. in the early 1800s, primarily as an ornamental water garden plant. Although its purple flowers are very attractive, this is an extremely aggressive species that can take over a whole lake or wetland through exponential growth, crowding out all other aquatic vegetation. It blooms all summer and releases seeds almost continuously; one flower stalk may produce 300,000 seeds, and an entire plant can produce over two million. As if that weren't bad enough, loosestrife can also spread through pieces of stems or from its roots; one plant may grow 30 to 50 root shoots.

In still other cases, an exotic species may happen to be bigger than its close relatives in the new environment it's introduced to. The exotic, could therefore, have a competitive edge in securing food resources or muscling its way into better breeding sites. Like the bionic man of TV fame, invasive exotics tend to be "bigger, stronger and faster."

## Insatiable Nutria

A case-in-point is the nutria. Nutria are huge rodents which can grow to 2 feet in length and up to 25 pounds in weight. They were widely introduced to the United States during the 1940s for the fur trade and have gradually spread north- and westward from the Gulf states into the entire southeastern region of the country. Native to Bolivia, Argentina, southern Brazil and Chile, this aquatic mammal inhabits brackish and freshwater marsh habitats and consumes the leaves and roots of green plants such as duckweed, cattail and various grasses. In the process, it competes for habitat resources with our smaller, native muskrat. Nutria present a grim problem for wetlands surrounding the Chesapeake Bay, because these animals have a propensity for ripping out large areas of vegetation. The effects of their destruction are cumulative and include fragmented marshland, barren mud flats called "eat outs," and deep swimming channels. Back home in South America, nutria populations are kept in check by alligators. Here in Virginia. . .oh dear, we don't have any alligators! Hence another exotic species without natural controls. Currently, land managers on National Wildlife Refuges and other public properties are making an effort to trap and eradicate the species, before it causes significant reductions to the habitats that muskrat, waterfowl and other wildlife species depend on.

## When is a Snake Not a Snake?

The most recent nasty to arrive on the environmental scene is the northern snakehead. It's not a snake but a fish that's native to China. In Asia, snakeheads are used as a food fish and for curing ailments. Able to survive in a variety of habitats, snakeheads are most comfortable in shallow, vegetated waterways; they can not tolerate saltwater. These fish are top-level predators that will eat other fish and aquatic animals. They are also highly adaptable to harsh environmental conditions and even have an air bladder to breathe air. Somehow snakeheads have found their way into U.S. waters in eight states, possibly from aquarium releases. Here in Virginia, several individual fish have been caught in the Potomac River, including a female carrying eggs. Unfortunately, snakeheads have no natural predators in the U.S. The concern is that if this species is able to establish a functional population, then it might outcompete (or out-EAT) other fish in the food web and thereby disrupt aquatic ecosystems.

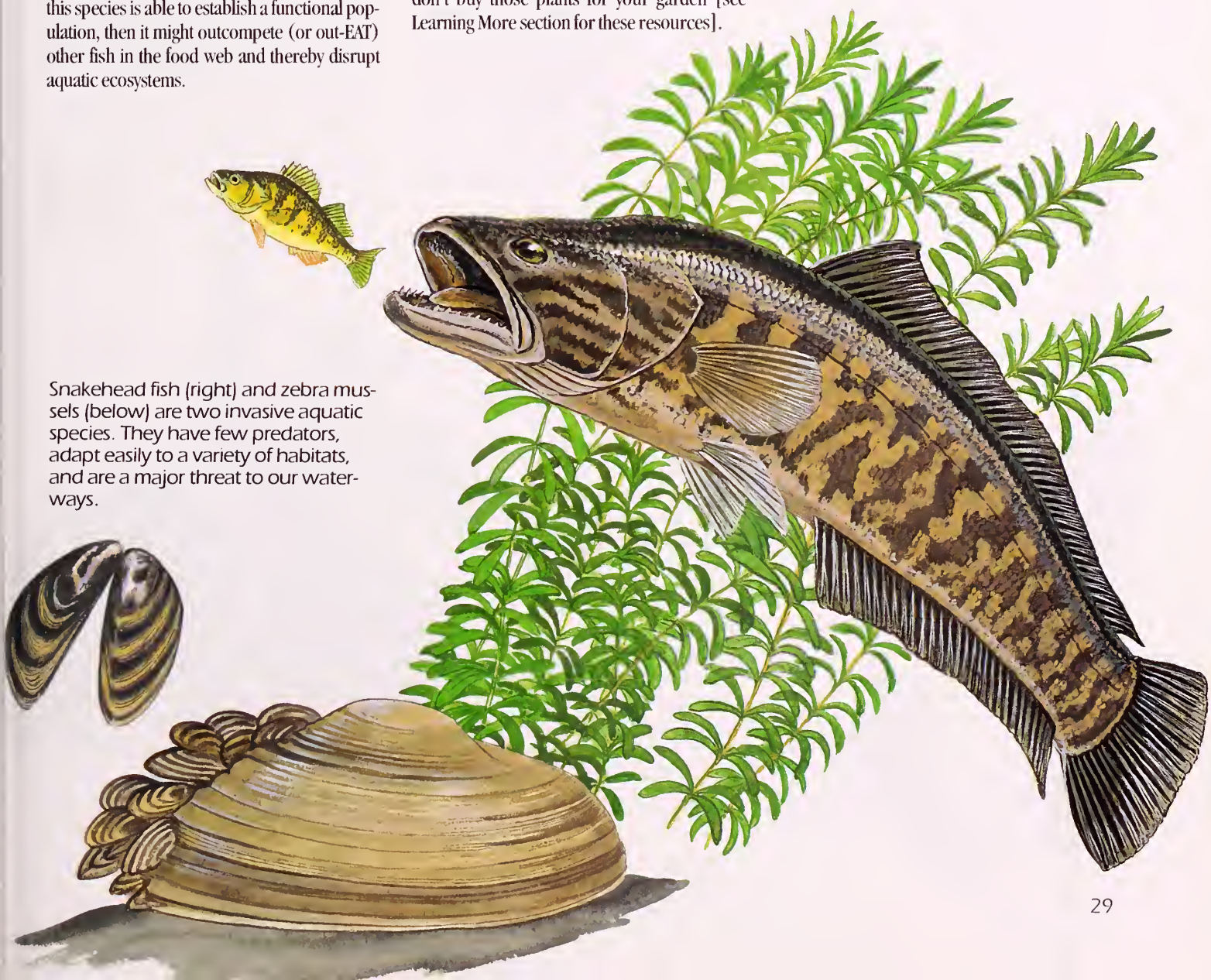
## Buyer Beware

When we talk about "native" species, we need to ask ourselves, "native to where"? Take a close look at a can of "native" wildflower meadow seeds on the shelf of your favorite home and garden store. Most of the seeds in the can are more likely to be native to a Midwestern prairie or maybe New England, not Virginia. Perhaps the seed company meant to say "native to North America."

This is not to imply that a wildflower species native to the prairies will necessarily become invasive if planted in Virginia. The point is "buyer beware." Do not assume that all of the plants for sale at your local mammoth-mart or favorite nursery will be harmless in the environment; the majority of plant material sold by the horticulture industry in Virginia is non-native to our area. Be an informed consumer instead: arm yourself with a list of proven invasive exotics and don't buy those plants for your garden [see Learning More section for these resources].

Just because you can order something from a catalog doesn't necessarily mean it must be O.K. to ship to Virginia, either. Ditto for animals you can buy in a pet store. The marine toad may be a popular item to use in science projects, and the African clawed frog might be considered a unique pet, but both of these species are illegal to own in Virginia. Nationally known science supply catalogs routinely sell live frog eggs advertised as "field collected." Collected from where? Missouri? Japan? Do those frogs belong here? A conscientious biologist would shout an emphatic "no!"

These movements of plants and animals across state and national boundaries are creating an ecological powder keg. The problem of non-native invasions is happening worldwide, particularly as an outcome of accelerated globalization and the fast-paced movement of people and goods from one continent to another.



Snakehead fish (right) and zebra mussels (below) are two invasive aquatic species. They have few predators, adapt easily to a variety of habitats, and are a major threat to our waterways.

## Keep Captive Animals Captive

"What's all this got to do with me?" one might be asking, "it's not my fault if ships keep dumping their ballast water into the Great Lakes; and I can't help it if the Colonists brought in a lot of weeds, that's history." This might be true; but what about all those half-used buckets of bait that get dumped in the river at the end of countless Saturday fishing trips? "Oh, that's just a few crawdads, that won't hurt anything." What if the seemingly innocuous crawdads are exotic species raised in Georgia or Louisiana that carry a virus which the Virginia species haven't been exposed to? And are we expert enough to correctly identify all 32 species of Virginia crayfish anyway, to know the difference?

When in doubt, DON'T throw it out! When the aquarium stops working and you decide not to keep those flashy iridescent fish that may have originated in the South Pacific, give them to a pet shop or a friend, or euthanize them and give them a proper burial—do anything but dispose of them into a creek, pond, or other body of water. Do not buy mussels or snails or tadpoles to put in your backyard water garden (native critters will colonize the water for you). When your children outgrow the cool lizard they found at Grandma's house, seek out a school or nature center to house it. Avoid ordering butterflies from catalogs to release at weddings. If a friend gives you a cat and you change your mind about it, take it to the animal shelter, don't release it into the woods. Each of these scenarios may be perceived as 'isolated' events ("I'm only going to do it once"), but it's the cumulative effect of everyone's actions that can potentially cause detrimental ripple effects throughout the ecosystem. The stakes to the environment are simply too high.

Let this be our mantra, repeated over and over again to friends, neighbors and family: absolutely never release aquatic or terrestrial animals from captivity into the environment. Any live animal that you buy or legally collect live must remain in captivity for the rest of its life. Besides the possible negative impact to native species or the environment, there's one other good reason: releasing animals from captivity into the wild is illegal in Virginia, unless otherwise specifically permitted by law or regulation.

The rudd, native to Eurasia, was introduced to this country in the 19th century. It is now prolific in many states and threatens native fish species.

## Learning More....

**National Invasive Species Council,** www.invasivespecies.gov/council/main.shtml—an interdepartmental council of federal agencies that provides excellent, comprehensive information about invasive species, including the most recent issues and alerts; lesson plans and other educational resources for teachers; fact sheets on animals and plants; databases; and state invasive species laws.

**Plant Conservation Alliance,** www.nps.gov/plants/alien/—*Weeds Gone Wild: Alien Plant Invaders of Natural Areas*, a web-based project of the Plant Conservation Alliance's Alien Plant Working Group; provides a national list and fact sheets of invasive plants.

**Division of Natural Heritage,** *www.dcr.state.va.us/dnh/*—the mission of the Va. Dept. of Conservation's Natural Heritage program is to conserve Virginia's biodiversity through inventory, protection and stewardship; provides a listing of invasive plants and numerous fact sheets.

**Cats Indoors!,** www.audubon.org/bird/cat –American Bird Conservancy's citizen action campaign which educates the public about the havoc wreaked on bird communities by free-roaming (stray) cats. ☐

*Carol A. Heiser is a Wildlife Habitat Education Coordinator with the Virginia Department of Game and Inland Fisheries.*

Purple loosestrife (left) and kudzu (right) were both introduced to the United States with good intentions, but because of their ability to quickly reproduce and choke out native plant species they are now a serious problem.

# Journal

## 2004 Outdoor Calendar of Events

**September 11–12:** *Virginia Big Game Contest Eastern Regional Championship,* Southampton County Fairgrounds, two mile west of Franklin at the intersection of Rt. 688 and Rt. 687. For more information, contact Kenneth Pickin, President, Virginia Peninsula Sportsmen's Assocation at (757) 229-0490 or visit their Web site at www.vpsa.org.

**September 17–19:** *Virginia Outdoor Weekend,* Westmoreland State Park. A program designed to give the entire family a chance to add to their outdoor experience. Activities include: canoeing, fishing, outdoor photography, archery, skeet shooting, wilderness survival and much more. For more information call (804) 367-0656 or visit our Web site at www.dgif.virginia.gov/events/index.html.

**September 17-19:** *The Ducks Unlimited Great Outdoors Festival,* Richmond/Petersburg, Virginia Motorsports Park. Bring the family, and even your dog to experience firsthand what's new in the outdoors. Everything from hunting, fishing, archery and biking gear, along with outdoor cooking will be on display. Visitors will have the opportunity to participate in numerous activities, such as rock climbing, shooting, canoeing, fishing, archery, dog training and much more. For ticket information, festival rules, activities and directions call 1-901-758-3858 or visit the official Web site of Ducks Unlimited at www.ducks. org.

**September 25–26:** *Virginia Big Game Contest Western Regional Championship and State Competition,* Rockingham County Fairgrounds, Harrisonburg on U.S. 11, 1.6 miles south of exit 243 off I-81. For more information, contact Jon Ritenour at (540) 434-8028 or visit their Web site at www.vpsa.org. □

AROUND THE CAMPFIRE

## A Deer Friend

by Jennifer Worrell

Lieutenant Ben Lewis and his decoy deer had an interesting encounter with an Essex constituent during a night hunting operation one evening. Lewis and his officers had seen few vehicles except for one little truck that passed by every 15 minutes or so. The driver continued his passes for three and a half hours; of course, Lewis' deer didn't move too far during that time span. Finally the driver threw his truck in park and stumbled out.

He hailed the decoy and cried, "How ya doin'?"

The deer, apparently at a complete loss for words, stared back at his new friend.

The man then put his hand out and declared, "Hey, Man, this is your world. I'm just living in it!"

When Lewis finally scared the man off, he swore he saw that decoy deer smile! □

## Get HIP

All hunters (whether licensed or exempt from being licensed) who plan to hunt doves, waterfowl, rails, woodcock, snipe, coots, gallinules or moorhens in Virginia must be registered with the Virginia Harvest Information Program (HIP). HIP is a method by which the Virginia Department of Game and Inland Fisheries and the U.S. Fish and Wildlife Service are developing more reliable estimates of the number of all migratory birds harvested throughout the country. These estimates give biologists the information they need to make sound decisions concerning hunting seasons, bag limits and population management.

HIP is required each year and a new registration number is needed for the 2004-2005 hunting season. To obtain a new number, migratory game bird hunters can register online at www.vahip.com or call 1-888-788-9772. □

## 2004 Game Warden of the Year

by Julia Dixon

The Virginia Department of Game and Inland Fisheries (VDGIF) announced that Game Warden Baxter I. Bell has been named Game Warden of the Year for 2004. The honor is the highest tribute presented by the agency to a game warden. A peer review committee, comprised of past recipients of the award, makes the selection. The recipient will represent the Department at the 2004 Southeastern Association of Fish and Wildlife Agencies

Left to right: Daniel A. Hoffler, VDGIF Board Chairman; Officer Baxter I. Bell, 2004 Game Warden of the Year; Colonel Herbert A. Foster, VDGIF Chief of Law Enforcement and William L. Woodfin, Jr., VDGIF Director.

annual conference as the VDGIF nominee for their Wildlife Officer of the Year Award.

Officer Bell began his career as a game warden in 1994, after receiving his Bachelor of Science Degree in Criminal Justice from Christopher Newport University. He was assigned to King and Queen County and served there for nine years. He recently transferred and is currently serving in James City County. Bell has demonstrated outstanding leadership in the areas of both public outreach and law enforcement. He has been instrumental in enhancing the Department's standing in his community by working with the Virginia Division of Forestry to develop a Wildlife and Forestry education program for elementary students in King and Queen County. Additionally, he developed and taught a wildlife resource education course for seventh grade students to satisfy the state's mandated standards of learning for that subject area. He has applied his educational skills in the area of law enforcement by contributing to the development of and teaching a waterfowl identification course for new and seasoned officers. Due to his expertise, attitude and professionalism, he serves as one of a few select Field Training Officers for VDGIF. In this role, he is responsible for mentoring and training new officers in their first assignments and through this very important formative experience has provided career-long influence on new game wardens. As a highly skilled criminal investigator, Bell has demonstrated his innovative abilities in utilizing the latest technological instruments provided to our officers. He has become highly proficient in the use of Global Positioning System devices and software. Most recently he teamed up with the Department's Global Information Systems staff to create specialized maps that aided in a successful prosecution of several individuals who were hunting waterfowl illegally. His fondness for waterfowl hunting (and understanding of blind laws) has made him an expert in educating the public and his fellow officers in this area. In addition, he has acted as the mediator in several instances of landowner/hunter disputes with respect to waterfowl hunting on our public waters.

Officer Bell was nominated for this award by his supervisors due to the profound respect and appreciation that they have for him. Said Colonel Herb Foster in presenting Bell with the award at the June 25 Board of Game and Inland Fisheries meeting, "Baxter I. Bell is a credit to the Department, his fellow game wardens and the Commonwealth and it is my great pleasure to recognize him here today." For all these reasons, Game Warden Baxter I. Bell has been named the Virginia Department of Game and Inland Fisheries Game Warden of the Year for 2004. □

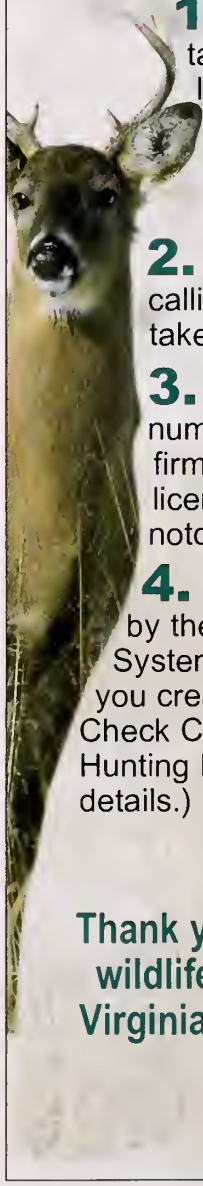
"Okay, George- I know you're in there"


# Attention Deer Hunters

Checking your deer just got easier with

**1-866-GOT-GAME**

**(1-866-468-4263)**



**1.** Notch the deer tag on your big game license prior to moving the deer.
**Do not remove the tag from your license!**

**2.** Check your deer by calling 1-866-468-4263 or take it to a check station.

**3.** Write check card number or telephone confirmation number on the license tag next to the notch.

**4.** Checking your deer by the Telephone Checking System may require that you create a Telephone Check Card. (See 2004-2005 Hunting Regulation booklet for details.)

**Thank you for supporting wildlife management in Virginia through hunting.**

# On The Water

by Jim Crosby

## Boating After Sundown

When the sun goes down, boating takes on a whole new dimension. The first time out on the water at night can be an enchanting adventure, or a nightmare, depending on how well prepared you are for this new experience in recreational boating.

Landmarks and scenery appear amazingly different after dark and can leave the boater wondering which way to turn to get back to an otherwise familiar landing. Unfortunately, many boaters' first experience with boating in the dark comes as a surprise due to poor planning, or mechanical failure.

Serious boaters know that proper planning includes being prepared for the least expected scenario. As with everything in life, it takes practice to perfect one's performance. I recommend taking very short excursions on the water after dark to get accustomed to the appearance of major landmarks and one's surroundings. This is one case where looking back can be just as important as looking forward. Mentally recording the look of your landfall at night can greatly enhance your ability to retrace your wake that has long since disappeared. Develop the habit of studying the lights, the shape of tree lines, and all identifying features visible in the limited light. Make your first excursion in the light of a bright and full moon. You will be amazed how much the moon can light up your surroundings on the water. The water acts as a reflector of moonbeams radiating them in all directions. As a matter of fact that accounts for some of the fascination of being on the water at night. The water ripples and flickers tiny spots of light like the sparkle of a diamond. Sometimes, it takes on a fluorescence that seems to make it glow in the moonlight. The dampness of the evening always cools the air and carries sounds much clearer and further—careful in an anchorage because your whispered conversations can be heard much further than you think.

One key factor in successful night navigation is avoiding night blindness. The Armed Forces are fully aware of this and their boats are designed and built with this in mind. Unfortunately, our recreational boats are not. They sport all-around, white navigation lights that light up the entire vessel and guarantee night blindness. You just can't look across a white expanse of lighted deck into dark murky waters and see anything. You can't stare at white, blue or green instrument lights and maintain your night vision beyond the bow.

Red light is the key. Red lights do not reduce our night vision. So, I pull all my instrument lights and replace them with red bulbs or paint the white ones with fingernail polish. I put red bulbs in my work lights on deck. I use a red lens flashlight to read my charts and work around the boat. In the Navy, we used to wear red goggles for 30 minutes before going on watch up on deck to increase our night vision.

Now, about that great white, all-around navigation light that you can't simply replace with a red bulb.

I had a boat where the light lit my entire foredeck with a glaring white glow that destroyed my night vision. I cut some black plastic sheeting into an oval with a hole in the center that matched the globe. I slid this down over the light socket and screwed the globe down tight on it. This shielded the boat but did not interfere with its navigational requirements. This "field modification" worked well for me. I was looking in a boating catalog just the other day and found Perko now offers such a shielding device commercially.

Also, you can now purchase an all-around, white navigational light that is labeled an "Anti-Glare All-Around Light." Perko seems to be leading this evolution in navigation lights. Their light aims the beam in a flat disk pattern that focuses the light above your line of sight. The ad states, "Most all-around white lights cast much of the light downward into the cockpit, but these lights aim light in a flat disk pattern above your line of sight."

I knew it was just the right thing when I first saw it and purchased one immediately at my local WalMart. They work by solving your problem with glare on the boat.

Once your night vision has been fully protected, you will be amazed how much you can see on the water at night and that's when the adventure begins.

I have only one other rule when running at night. I always stay in the displacement mode. I never bring the vessel up on plane because you out run your sight distance and the probability of hitting something is beyond reason. If you strike a floating piling or something in the displacement mode, it will simply bump along your hull until you pass it. If you strike that same piling while on plane, it will more likely penetrate your hull and the consequences could be disastrous.

Boating is all about increasing the fun while decreasing the risks. □

# RECIPES

by Joan Cone

## Squirrel–From Tree to Table

Squirrel meat has many uses. It resembles the dark meat of turkey or chicken and can be substituted for either.

The first step is precooking and removing meat from the bones. You can choose between these two methods:

1. Place squirrels in a deep pot, cover with water and cook at a slow boil until fork tender.
2. Squirrels can be cooked in a pressure cooker by adding 1 cup water and cooking under 15 pounds of pressure for 20 to 25 minutes.

Either way, after cooking, remove meat from carcass and use in the following recipe

Menu

*Squirrel Gumbo*
*Corn Muffins*
*Classic Waldorf Salad*
*Easy Cheesecake*

### Squirrel Gumbo

1/4 cup butter or margarine
1 tablespoon bacon drippings
2 cups sliced okra
1 small onion, chopped
1/4 cup chopped green pepper
5 cups chicken broth
2 cups peeled, chopped tomato
1 bay leaf
Salt and pepper to taste
1/2 cup uncooked regular rice
1 cup diced, cooked squirrel
1 tablespoon chopped fresh parsley

Melt butter and bacon drippings in a Dutch oven. Add okra, onion and green pepper; sauté until onion is tender. Stir in broth, tomato, bay leaf, salt and pepper. Bring to a boil and stir in rice. Cover, reduce heat and simmer 20 minutes. Stir in squirrel and parsley and cook just until thoroughly heated. Remove bay leaf. Makes 7 cups.

### Corn Muffins

1 cup flour
1 cup cornmeal
2 tablespoons sugar
3 teaspoons baking powder
1/2 teaspoon salt
1 cup milk
1/4 cup oil or melted shortening
1 egg, slightly beaten

Preheat oven to 425° F. Grease 12 muffin cups. In medium bowl, combine flour, cornmeal, sugar, baking powder and salt; mix well. Stir in remaining ingredients just until smooth. Spoon batter into greased muffin cups and bake 15 to 20 minutes. Immediately remove from muffin cups. Makes 12 muffins.

### Classic Waldorf Salad

4 crisp Virginia apples, cubed, unpeeled
2 cups chopped celery
6 ounces chopped walnuts
6 ounces raisins
Mayonnaise or creamy salad dressing
Leaf lettuce

Combine the first four ingredients. Add enough mayonnaise or dressing to hold ingredients together. Spoon onto plates lined with lettuce leaves. Serves 6.

### Easy Cheesecake

1 9-inch graham cracker crust
1 package (8 ounces) cream cheese, softened
1/2 cup sugar
1 tablespoon fresh lemon juice
1/4 teaspoon vanilla
Dash salt
2 eggs
Topping (recipe follows)

Preheat oven to 325° F. In bowl, combine cream cheese, sugar, lemon juice, vanilla and salt. Mix until well blended. Add eggs, one at a time, mixing well after each addition. Remove inverted plastic lid over pie crust. Place crust (leave in pie tin) on baking sheet and pour in filling. Bake for 25 to 30 minutes or until inserted knife comes out clean.

**Topping:** Combine 1 cup sour cream, 2 tablespoons sugar and 1/4 teaspoon vanilla. Carefully spread over pie. Continue baking 10 minutes and cool. Chill 3 hours. Top with fresh fruit, if desired. Makes 8 servings. □

Virginia's Finest

# Naturally Wild

story and illustration
by Spike Knuth

## Northern Red-Shouldered Hawk

*Buteo lineatus*

The big bird swooped up over the neighbor's fence, hovered briefly at a naked maple branch, then landed on the T-shaped clothesline post. It was an unusual sight since red-shouldered hawks are not normally a bird of the residential suburbs. It kept looking down at the grasses in my overgrown vegetable garden. Finally, displaying considerable nervousness, it flew off with quick wing beats and a glide and disappeared through the other backyards.

Red-shouldered hawks are most abundant around swamps, river bottoms, wooded lakes and mixed woodlands near streams or rivers.

One of the more common hawks in eastern North America, it is classified as a buteo, which is the family of soaring hawks, the most common of which is the red-tailed hawk. However, the red-shouldered hawk is slimmer, with relatively long wings and tail, rather than the broad rounded wings and fan-like tails of the red-tail and broad-winged hawks. Red-shoulders measure 18 to 24 inches in length with the females being generally larger.

Adult red-shoulders are dark brown above with fine, light ruddy or cinnamon barring on its breast, belly and shanks. The tail is black with several narrow white bands, which is a good identifying field mark. There is also a translucent spot near the wing tips, and bright ruddy shoulders for which it is named. Its flight style has quick, wing beats followed by a glide as it hunts. The feet and talons are smaller than the red-tail.

This hawk is especially noisy in spring and early summer when courting and nest-building. The pair often engages in spectacular dives at each other from considerable heights, uttering their screaming call as they drop. The call is a long, drawn-out "keeee-yah," sometimes repeated several times, and often ending in "kip-kip."

Red-shouldered hawks nest in the moist woodlands close to water and often close to cultivated fields. Their nest is a big, flat-topped structure high up in a large tree, in one of the larger crotches. It is built of twigs, leaves, bark strips, mosses, and usually a sprig of fresh greenery, a habit typical of many raptors. Two to five eggs are laid and incubation takes 28-35 days. Once the young begin to fledge they scramble about clumsily in the branches around the nest trying their wings from time to time.

The food of the red-shoulder is tied to the wet areas it lives in. It includes frogs, snakes, crayfish, salamanders, small squirrels, rabbits, and large insects.

The southward migration of the more northerly breeders can be quite spectacular as scattered flocks and families join more numerous broad-winged hawks and others in circling, soaring groups, called "kettles," as they drift southward. This event happens each year about mid-September in Virginia around Afton Mountain and in many other parts of the Blue Ridge. However, many red-shoulders remain in their breeding grounds through the winter. □

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